

A NEW *EREMOCORIS* FROM CALIFORNIA WITH A KEY TO
NORTH AMERICAN GENERA OF DRYMINI
(HEMIPTERA-HETEROPTERA: LYGAEIDAE)

PETER D. ASHLOCK¹

Dept. of Entomol., Univ. of Kansas, Lawrence, 66045

Peculiar species often present problems of placement, and such is the case with a short-winged drymine (Rhyparochrominae) described herein. Specimens of the species, which were collected in northern California on Sargent's Cypress, have been in my collection for several years, and additional specimens were found in the collection of the California Academy of Sciences. The species looks like an *Eremocoris*, but is an unusual member of that genus. It has shorter wings than any other species and is quite uniformly dark reddish brown, lacking the patterns on the pronotum and hemelytra common in the genus. The degree of brachyptery is similar to that of *Togodolentus wrighti* (Van Duzee), and in both species the anterior lobe of the pronotum is much longer than the hind lobe and somewhat swollen. These pronotal characters are associated with the wing modification. There were no macropterous specimens available of either species.

Study was begun to determine if the new cypress bug is an odd *Eremocoris*, or a second species of the monotypic genus *Togodolentus*, or whether *Togodolentus wrighti* itself is merely another peculiar species of *Eremocoris*.

The hind tibia of the cypress bug has along its entire length numerous long, erect hairs that are about three times as long as the measurement across the tibia (see Fig. 1). Sweet (1977) described this condition for *E. ferus* (Say) from eastern North America and used it to distinguish *E. ferus* from *E. borealis* (Dallas). Other *Eremocoris* with long tibial hairs are *E. setosus* Blatchley (eastern U.S., Canada), *E. plebejus* Fallén (Europe, Siberia), and *E. semicinctus* Van Duzee (California, Idaho). These long tibial hairs may have confused E. P. Van Duzee (1921) when he described *E. semicinctus*, for the allotype of his species is a female of the cypress bug described below. *Eremocoris* species with short, appressed tibial hairs, in addition to *E. borealis* cited by Sweet (1977), are *E. depressus* Barber (southeastern U.S.), *E. dimidiatus* Van Duzee (Colorado), *E. obscurus* Van Duzee (western U.S., Canada), and *E. opacus* Van Duzee and *E. inquilinis* Van Duzee (both California). All other North American drymines, and *Togodolentus wrighti*, have short, appressed hairs on the hind tibia.

The long tibial hairs found only in some species of *Eremocoris* may be a synapomorphous character delimiting a holophyletic group within the ge-

nus. If so, placing the cypress bug in *Togodolentus* would make *Togodolentus* polyphyletic, which is contrary to good systematic practice.

Whether *Togodolentus wrighti* is enough like *Eremocoris* species to be placed in the genus is another question. The buccula of most North American drymines appears from the side as a prominent lobe obscuring the base of the labium. Viewed ventrally, the bucculae extend posteriorly as carinae that join to enclose a gular region. In all *Eremocoris*, including the cypress bug, these carinae extend to or nearly to the base of the head, enclosing a posteriorly tapering gular region. In *Togodolentus*, the carinae extend only to the level of the anterior margin of the eye, and the enclosed gular region is parallel-sided.

Further, most North American drymines have the lateral margins of the pronotum to some degree explanate. (*Thylochromus* is an exception.) In *Togodolentus*, the explanate margin is wider than in any other North American drymine (at the middle, wider than the middle part of the second antennal segment). In species of *Eremocoris*, these margins are not as wide as the second antennal segment at its midpoint. Given this information, I conclude that the cypress bug is a true *Eremocoris*, and that the genus *Togodolentus* should be retained.

***Eremocoris cupressicola*, new species²**
(Fig. 1)

Head.—Vertex obscurely roughened, elevated between eyes, obscurely covered with short, sparse hairs, trichobothrial hairs very long, prominent; length 2.10, width including eyes 1.95, antecular length 1.26, antenniferous tubercle length 0.42, eye length 0.51, eye width 0.36, interocular space 1.17, bucculae most prominent as anteriorly projecting lobes, continuing as low carinae to near base of head, enclosing a tapering gular region; labium just exceeding posterior coxae, reaching base of abdomen, first segment just exceeding anterior margin of prosternum, segment lengths from base 1.95, 2.70, 1.92, 0.69; antennae clothed with short, appressed hairs, segments I, II, and III with a few longer hairs apically and segment I with three setae basally on medial surface, clypeus not reaching midpoint of segment I, segment lengths from base 1.26, 2.40, 1.98, 1.92.

Pronotum.—Sparsely clothed with long, erect setae, anterior lobe obscurely roughened and punctate, collar region and lateral explanate margins delimited by row of punctures, posterior lobe moderately punctate, distance between punctures from diameter of a puncture to three times this distance; medial length 2.70, greatest length 3.09, anterior and posterior margins deeply emarginate, anterior lobe prominent, swollen, lateral explanate carina of even width, about as wide as diameter of second antennal segment at middle, becoming wider between lobes, posterior lobe poorly differentiated

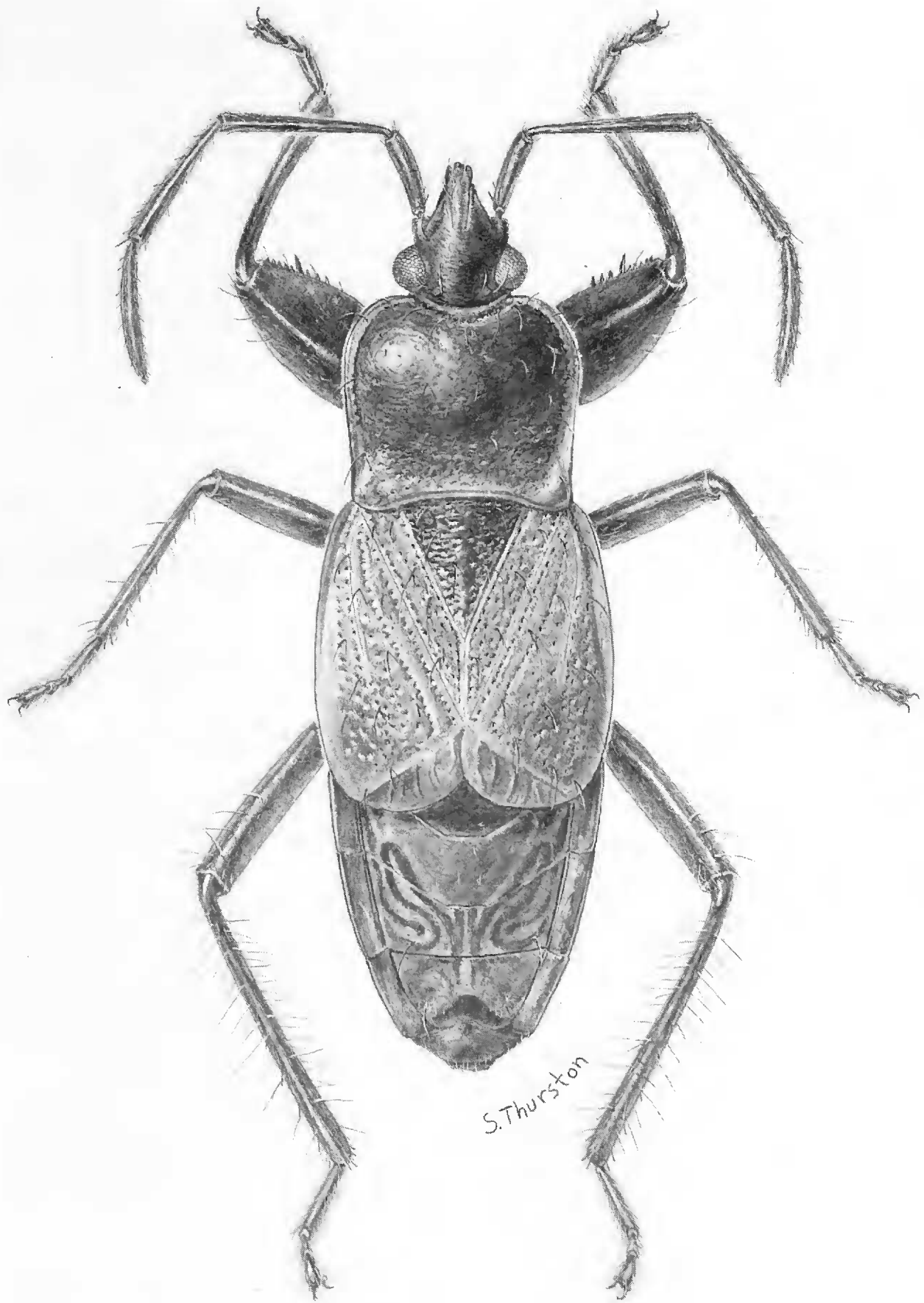


Fig. 1. *Eremocoris cupressicola* Ashlock, new species, dorsal view, holotype.

from anterior lobe, median length of anterior lobe 1.86, median length of posterior lobe 0.84, scutellum with surface curved down laterally, clothed with erect hairs and punctures like those on posterior lobe of pronotum, length 1.86, width 1.80.

Hemelytra.—Brachypterous, reaching abdominal segment V, clavus and corium with erect setae similar to those on pronotum, veins not evident, length of corium 4.35, length of claval commissure 1.20, membrane without evident veins, greatest width 1.86, greatest length 0.72.

Legs.—Fore femora greatly incrassate, width 1.35, length 3.39, armed beneath with two ranks of spines, with one large subapical spine on inner rank, accompanied by five small spines basally and four small spines apically, outer rank with three small apical spines. Fore tibia curved, with small tubercles on inner surface. Hind tibia with entire surface covered with long, erect setae three times as long as diameter of tibia.

Color.—Rather uniform dark reddish brown; acetabulae, coxae, lateral margins of hemelytra a little paler; tarsi yellow.

Length.—Female holotype 7.50; females, range 6.60 to 7.95, mean 7.52; males, range 6.90 to 7.05, mean 6.95.

Holotype female (California Academy of Sciences).—California, Marin Co., Carson Ridge, under bark of *Cupressus sargentii*, I-22-1957 (J. A. Chemsak).

Paratypes (California Academy of Sciences and the author's collection).—All California. 1 male, same data as holotype; 1 female, same data (P. D. Ashlock); 1 female, same data but I-9-1957 (J. A. Powell); 1 female, same locality but beating *Cupressus sargentii*, II-1-1958 (P. D. Ashlock); 2 females, same locality, V-6-1962 (C. W. O'Brien); 1 female, same locality, XI-15-1962 (J. A. Chemsak); 2 females, same locality, found dead under bark of dead *Cupressus sargentii*, VIII-9-1978 (P. D. Ashlock & E. Rogers); 1 male, same locality, habitat, date, collectors, but collected as nymph, emerged VIII-15-1978; 2 females, same locality, under board, IX-24-1963 (P. D. Ashlock & N. T. Davis); 1 female, Marin Co., Cypress Ridge, V-29-1920 (E. C. Van Dyke) [allotype of *Eremocoris semicinctus* Van Duzee]; 1 female, Marin Co., Fairfax, V-11-1919 (E. P. Van Duzee); 1 male, Alameda Co., Cedar Ridge, III-22-1931 (E. C. Van Dyke); 1 female, Sonoma Co., 1 mi NE Occidental, V-17-1964 (C. W. O'Brien); 1 male, Sonoma Co., 2 mi E Camp Meeker, XI-24-1962 (P. D. Ashlock); 1 female, same data (C. W. O'Brien); 1 female, Lake Co., St. Helena Creek, III-11-1951 (J. Helfer); 2 females, Lake Co., Highland Springs, V-10-1932 (R. L. Usinger); 1 female, Lake Co., Middletown, Putah Creek, V-11-1928 (E. P. Van Duzee).

In addition to the form of the brachyptery and the uniform color, distinctive features of *E. cupressicola* include the longest head of any North American member of the genus: the antecular distance is greater than the interocular distance. The males have strongly curved fore tibiae, with sev-

eral short spines on the inner surface. The first of my specimens were collected under the bark of cypress trees in January, where the insects were probably overwintering. Beating the trees themselves has produced other specimens, and the best results have come from beating branches that have open cones with seeds. Presumably the bugs feed on the seeds, competing with *Kleidocerys obovatus* (Van Duzee) (Lygaeidae, Ischnorhynchinae), which is common in the same habitat.

In the twenties and thirties, such collectors as E. P. Van Duzee and E. C. Van Dyke referred to a specific locality in Marin County, California, as "Cypress Ridge," and some specimens of *E. cupressicola* bear this label. The correct name for this locality is Carson Ridge. The cypress forest lies past a locked gate at the end of Carson Road, which leaves the main road in the town of Woodacre.

Earlier keys (Barber, 1918; Torre-Bueno, 1946) to North American drymine genera combine this tribe with the Lethaeini and place the genus *Thylochromus* in the tribe Rhyparochromini. Slater and Baranowski (1978) do not distinguish tribes in their key, and omitted *Togodolentus* and *Thylochromus* because of the rarity of their species. Since no complete and correct key to genera has ever been provided, and since a better separation of *Eremocoris* and *Togodolentus* has been achieved, a new key to the six genera of Drymini found north of Mexico follows. The only other Western Hemisphere genus of Drymini listed in the Slater catalogue (1964) is *Scythinus* Distant, whose only species, *S. splendens* Distant, is not available for study. However, the key should be useful for Mexico as well. The most recent characterization of the Drymini is that of Sweet (1967), and the group can be recognized by the two trichobothria (not three) that are placed anteriorly on abdominal segment five.

Key to the Genera of Drymini of America North of Mexico

1. Lateral margin of pronotum angulate, not foliaceously expanded; brachypterous forms without a trace of membrane; Pacific Coast states *Thylochromus* Barber
- Lateral margins of pronotum foliaceously expanded at least between anterior and posterior lobes; brachypterous forms with obvious hemelytral membrane 2
2. Ventral abdominal sutures straight and reaching lateral margins; flattened, cone-living bugs *Gastrodes* Westwood
- Ventral abdominal suture IV–V curving anteriorly and not reaching lateral abdominal margins; robust, mostly ground-living bugs 3
3. First antennal segment shorter than distance between eyes; apex of clypeus reaching at least to middle of antennal segment I 4
- First antennal segment longer than distance between eyes; apex of clypeus not reaching middle of antennal segment I 5

4. Antennae densely covered with semierect hairs that are longer than diameter of segments; east of Rocky Mts. *Drymus* Fieber
 Antennae with only an occasional erect hair, most hairs appressed and shorter than diameter of segments *Scolopostethus* Fieber
5. Bucculae extending posteriorly as carinae only as far as level of anterior margin of an eye, enclosing a parallel-sided gular region; width of lateral pronotal expansions at middle of anterior lobe greater than diameter of antennal segment II measured at its middle; California *Togodolentus* Barber
 Bucculae extending posteriorly as carinae to base of head, enclosing a gular region that narrows posteriorly; width of lateral pronotal expansions at middle of anterior lobe not wider than diameter of antennal segment II measured at its middle *Eremocoris* Fieber

Acknowledgments

I am grateful to Dr. Paul H. Arnaud, California Academy of Sciences, for the loan of specimens of *E. cupressicola*, and for permitting me to study Van Duzee's types of the genus *Eremocoris*. The excellent illustration was executed by Mr. S. Thurston, University of Connecticut, Storrs.

Literature Cited

- Barber, H. G. 1918. Synoptic key to the Lygaeidae (Hemiptera) of the United States, Part II: Rhyparochrominae. *Psyche* 25: 71–88.
- Slater, J. A. 1964. A Catalogue of the Lygaeidae of the World. 2 vols. University of Connecticut, Storrs.
- Slater, J. A., and R. M. Baranowski. 1978. How to Know the True Bugs (Hemiptera-Heteroptera). Wm. C. Brown Co., Dubuque, Iowa.
- Sweet, M. H. 1967. The tribal classification of the Rhyparochrominae (Heteroptera: Lygaeidae). *Ann. Entomol. Soc. Amer.* 60: 208–226.
- Sweet, M. H. 1977. Elevation of the seedbug *Eremocoris borealis* (Dallas) from synonymy with *Eremocoris ferus* (Say) (Hemiptera: Lygaeidae). *Entomol. News* 88(7–8): 169–176.
- Torre-Bueno, J. R. de la. 1946. A synopsis of the Hemiptera-Heteroptera of America north of Mexico, Part III: Family XI—Lygaeidae. *Entomol. Amer.* 26: 1–140.
- Van Duzee, E. P. 1921. Characters of some new species of North American hemipterous insects, with one new genus. *Proc. Calif. Acad. Sci. (Ser. 4)*, 11(10): 111–134.

Footnotes

¹ Contribution no. 1627 from the Department of Entomology, University of Kansas, Lawrence, Kansas 66045.

² All measurements in millimeters.